Report on:

INFLUENZA AND RESPIRATORY VIRUS SURVEILLANCE IN WISCONSIN 2002-2003

Including status reports of SARS and Enhanced Laboratory Surveillance

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I. U.S. INFLUENZA SENTINEL PROVIDER SURVEILLANCE NETWORK WISCONSIN SENTINEL CLINICIAN PROGRAM

Overview

The U.S. Influenza Sentinel Provider Surveillance Network is a program designed and implemented by the Influenza Branch of the Centers for Disease Control and Prevention (CDC). State health officials are given immediate access to national, regional and state-specific influenza data through the CDC Internet web site, allowing for faster and more thorough assessment of influenza activity in each state. Wisconsin participates in the national Sentinel Provider Surveillance network, through the Sentinel Clinician Program, implemented by the Wisconsin Division of Public Health (DPH).

2002-2003 Wisconsin Influenza Sentinel Clinicians Program

During the 2002-2003 season, 83 clinicians participated in the Wisconsin Sentinel Clinician Program. Sentinel clinicians were limited to those with family practice specialty including 28 physicians, 22 Physician Assistants (PA), 26 Advanced Practice Registered Nurses (APRN) and seven clinics. Clinicians were selected based on the location of their practice in the state. Figure 1 illustrates the counties where sentinel clinicians practiced during the 2002-2003 influenza season (October 5, 2002-May 17, 2003).

Since 1997, the CDC has used sentinel provider reporting data used to determine national, regional-national and state percentages of influenza-like (ILI) illness. The CDES uses data received from the CDC to monitor influenza activity in Wisconsin and the East North-Central region of the United States. In 1999, the CDES began using sentinel clinician data to calculate the percentage of ILI in each of the five public health regions of Wisconsin to give clinicians an accurate sense of ILI activity in their geographic area. In 2002, the CDES began to calculate state and regional baseline and threshold levels of ILI activity, based on data from the three previous influenza seasons. Baseline and threshold levels assist clinicians and public health officials in the interpretation of ILI activity in their area. Percentages below the baseline level were considered as low ILI activity while percentages between baseline and threshold levels were considered moderate ILI activity and percentages above threshold levels were considered high ILI activity. Figure 2 illustrates the five public health regions in Wisconsin.

Figure 1. Wisconsin counties where sentinel clinicians practiced, 2002-2003.

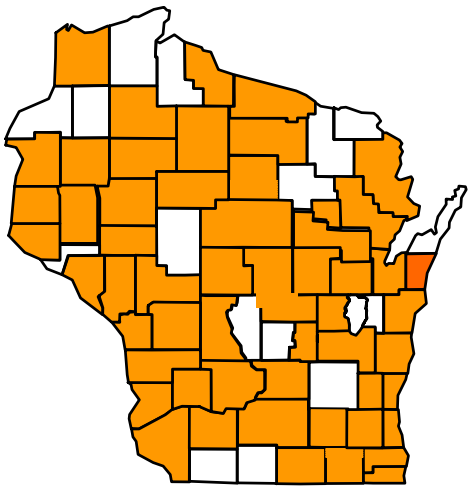
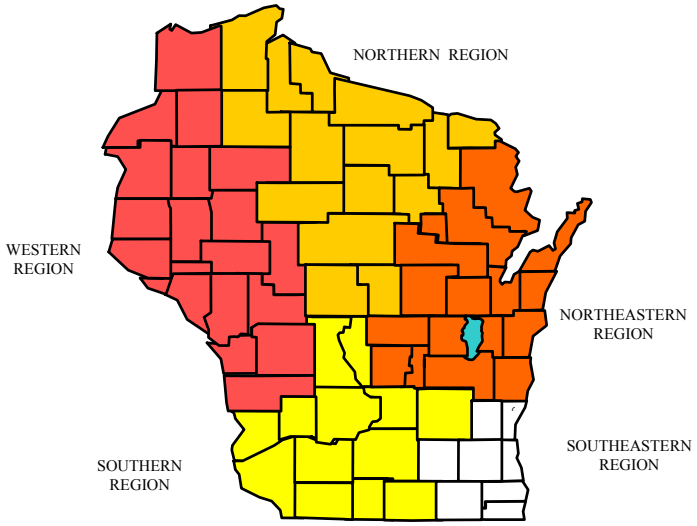


Figure 2. Sentinel clinician regions in Wisconsin, 2002-2003.

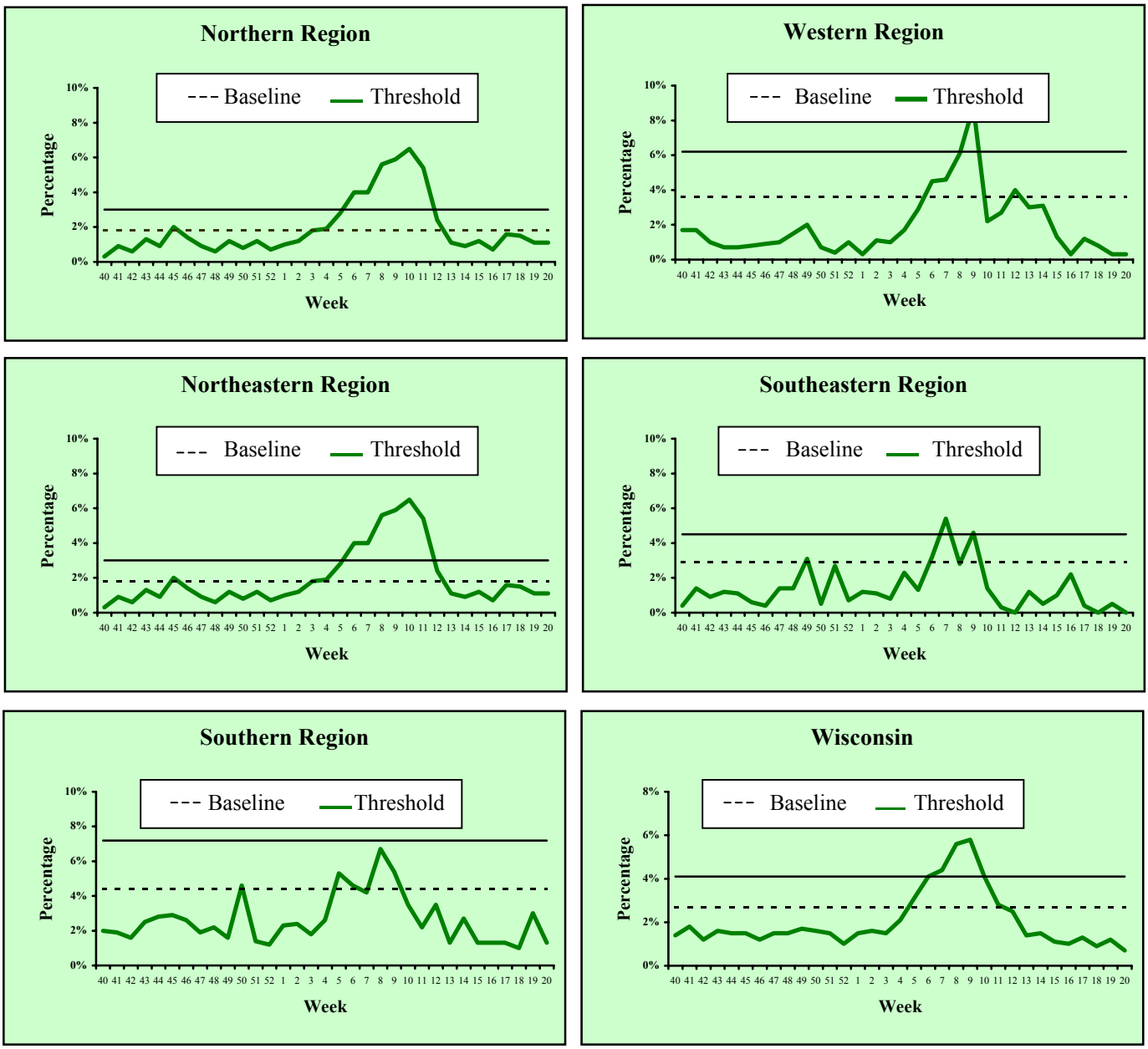


Southern Region	Southeastern Region	Northeastern Region	Western Region	Northern Region
Adams	Jefferson	Brown	Barron	Ashland
Columbia	Kenosha	Calumet	Buffalo	Bayfield
Crawford	Milwaukee	Door	Burnett	Florence
Dane	Ozaukee	Fond du Lac	Chippewa	Forest
Dodge	Racine	Green Lake	Clark	Iron
Grant	Walworth	Kewaunee	Douglas	Langlade
Green	Washington	Manitowoc	Dunn	Lincoln
Iowa	Waukesha	Marinette	Eau Claire	Marathon
Juneau		Marquette	Jackson	Oneida
Lafayette		Menominee	La Crosse	Portage
Richland		Oconto	Monroe	Price
Rock		Outagamie	Pepin	Sawyer
Sauk		Shawano	Pierce	Taylor
		Sheboygan	Polk	Vilas
		Waupaca	Rusk	Wood
		Waushara	St. Croix	
		Winnebago	Trempealeau	
			Vernon	
			Washburn	

Influenza-like illness in Wisconsin, 2002-2003

During the 2002-2003 influenza season Wisconsin had a sentinel clinician/total population ratio of approximately 1: 63,900, that exceeded the CDC recommended ratio of 1:250,000. An analysis of the 2002-2003 data reported by sentinel clinicians indicated that the percentage of ILI in Wisconsin, and the Western public health region of the state peaked during the week ending March 1, 2003 (week 02-09). The percentage of ILI peaked during the week ending March 8 (week 02-10) in the Northern and Northeastern regions, during the week ending February 15, 2002 (week 02-07) in the Southeastern region and during the week ending February 22, 2002 (week 02-08) in the Southern region of Wisconsin. Figure 3 shows the weekly percentage of ILI as reported by sentinel clinicians in each of the five public health region in Wisconsin.

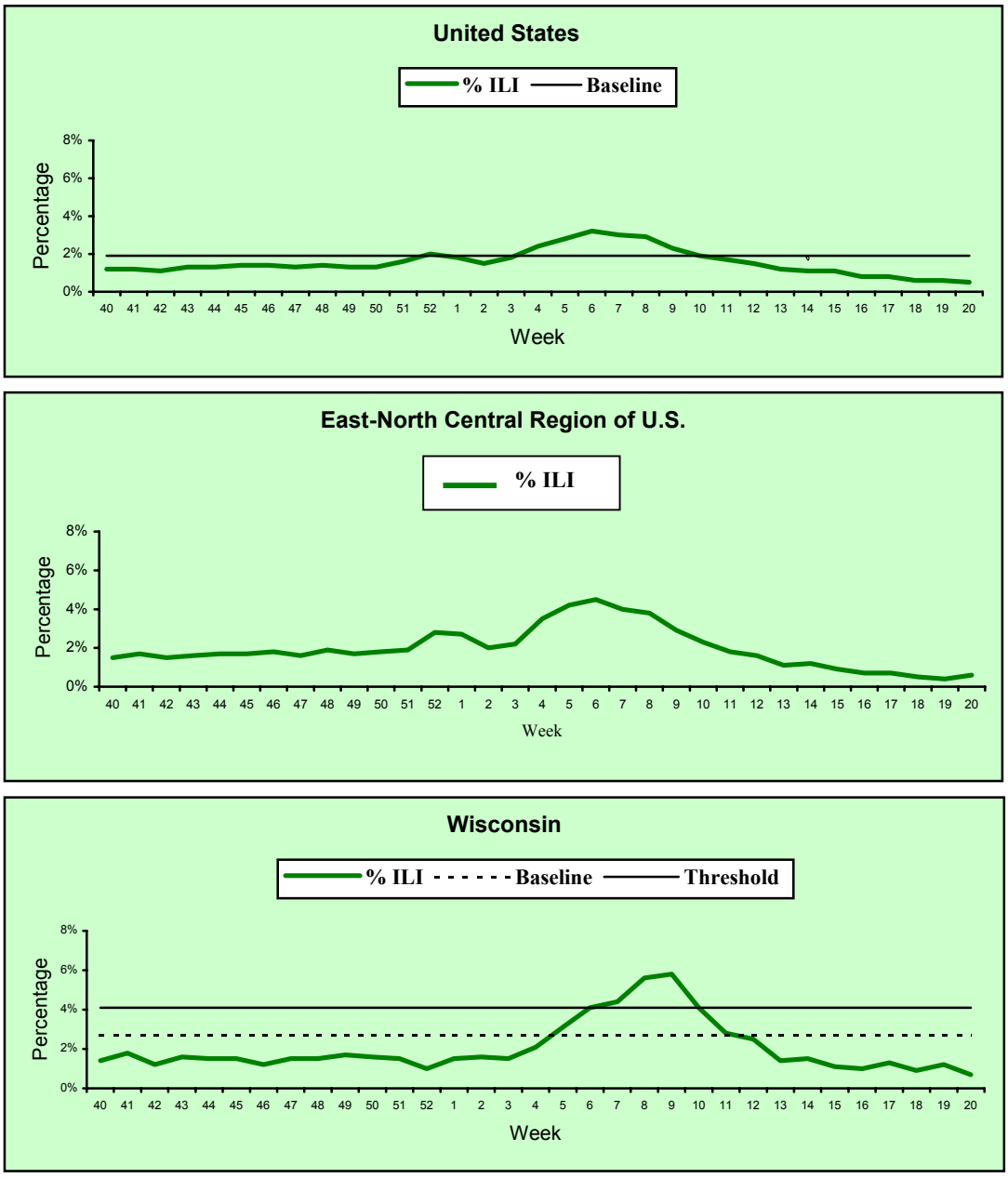
Figure 3. Percentages of patients who present with influenza-like illness, as noted by influenza sentinel clinicians in Wisconsin, by region, October 5, 2002- May 17, 2003.



Influenza-like illness in the United States, 2002-2003

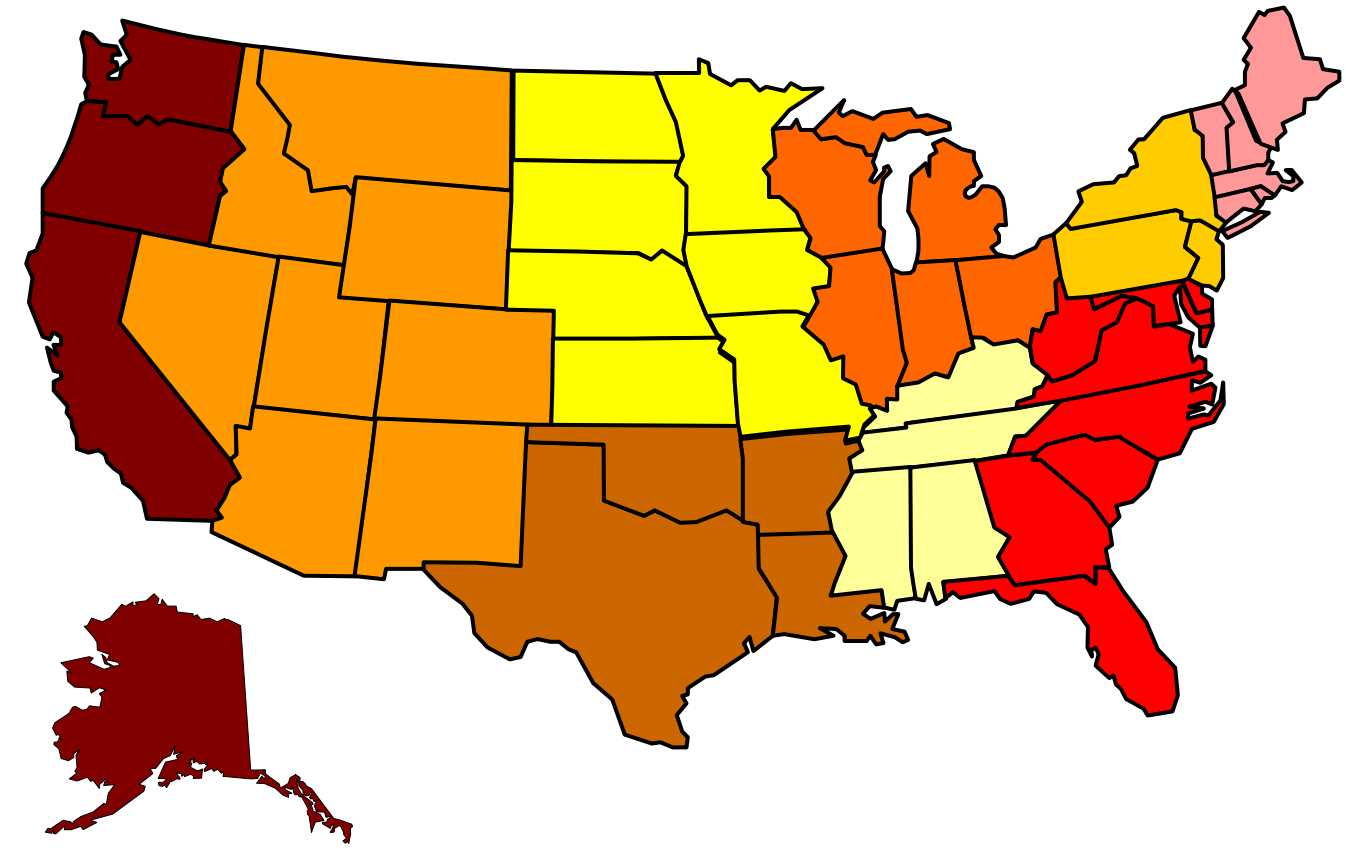
An analysis of the 2002-2003 data reported by sentinel providers indicated the percentage of ILI in the United States and the East North-Central region peaked in during the week ending February 8, 2002, week 02-06. In Wisconsin, the percentage of ILI peaked during the week ending March 1, 2003. Figure 4 illustrates the weekly percentage of ILI in the United States, the East North Central region of the United States and Wisconsin. Figure 5 illustrates nine sentinel regions of the United States

Figure 4. Percentage of patients who present with influenza-like illness, as noted by influenza sentinel clinicians in Wisconsin, the East North-Central region of the United States and the entire United States, October 5, 2002- May 17, 2003.



Note: ILI threshold levels are not identified for United States and East-North Central Regional surveillance. An ILI baseline level is not identified for East-North Central Regional surveillance.

Figure 5. Influenza Sentinel Provider regions of the United States.

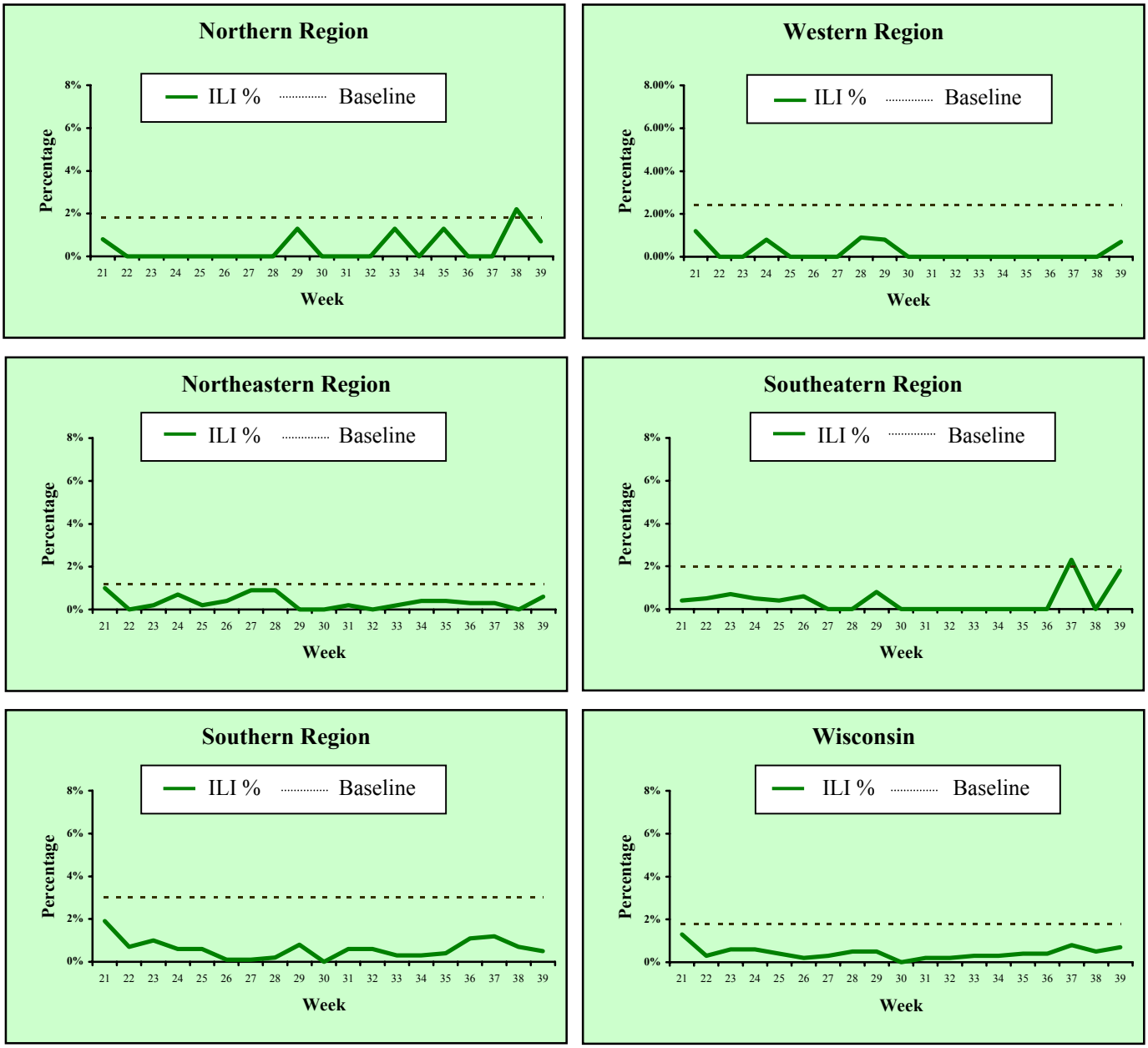


Pacific	Mountain	W/N-Central	E/N-Central	W/S-Central	E/S-Central	S-Atlantic	Mid-Atlantic	New England
Washington	Montana	South Dakota	Wisconsin	Texas	Kentucky	Florida	New York	Vermont
Oregon	Idaho	North Dakota	Michigan	Oklahoma	Tennessee	Georgia	Pennsylvania	New Hampshire
California	Wyoming	Minnesota	Illinois	Louisiana	Alabama	Maryland	New Jersey	Connecticut
Alaska	Colorado	Iowa	Indiana	Arkansas	Mississippi	Virginia		Massachusetts
Hawaii	Utah	Missouri	Ohio			North Carolina		Rhode Island
	Nevada	Kansas				Delaware		Maine
	Arizona	Nebraska				South Carolina		
	New Mexico					West Virginia		

The 2002 Summer Surveillance Program in Wisconsin

In 2002, to meet the objectives of the surveillance portion of the Wisconsin Influenza Pandemic Plan, the CDES initiated surveillance for ILI in Wisconsin on a year-round basis. Twenty-nine of the sentinel clinicians participated in the surveillance during the 2002 summer surveillance season (May 25-September 28). Reporting of data remained the same as during the influenza season. No significant increase in ILI activity was noted in any region of the state during the 2002 summer season. Because this is only the second year of year-round ILI surveillance, there was insufficient data to calculate baseline levels of ILI. The baseline levels utilized were estimated based on data from ILI surveillance during the four previous influenza seasons.

Figure 6. ILI activity as noted by Wisconsin Sentinel Clinicians during the 2002 summer surveillance Season, May 25, 2002 -September 28, 2002.



The 2003-2004 Sentinel Clinician Program in Wisconsin

Prior to the 2003-2004 influenza season, the BCD will continue to enhance the number of sentinel clinicians that participate in the Wisconsin Sentinel Clinician Program statewide and in each of the five public health regions. This will enable the CDES to extract sufficient data to determine weekly regional Percentage of ILI in the five public health regions of Wisconsin. The CDES will continue to post state and regional Percentage of ILI on the Wisconsin Department of Family Services Health Alert Network (HAN). The distribution of Wisconsin Influenza Sentinel Clinicians during the 2002-2003 influenza season is listed in Table 1.

Table 1. Influenza sentinel clinicians in Wisconsin for the 2002-2003 influenza season.

Region	Number of physicians who participated
Southern (13 counties) population 972,710*	17
Southeastern (8 counties) population 2,006,929*	17
Northeastern (17 counties) population 1,160,186*	19
Northern (15 counties) population 482,311*	15
Western (18 counties) population 741,539*	15
Total	83

* Based on 2000 population estimates

II. INFLUENZA MORBIDITY AS ASSESSED BY STATE AND TERRITORIAL EPIDEMIOLOGISTS

Overview

Each week during the influenza season, designees of each of the 50 state and territorial epidemiologists report the influenza activity in their state to the CDC via the National Electronic Telecommunication System for Surveillance (NETSS) or other means of communication. Influenza activity is categorized into four levels of ascending activity:

0	No activity:	No confirmed cases of influenza detected
1	Sporadic activity:	Sporadic confirmed cases of influenza with no clusters of ILI detected
2	Regional activity:	Clusters of ILI and confirmed influenza activity were noted in counties with a combined population that was < 50% of the state's total population
3	Widespread activity:	Clusters of ILI and confirmed influenza activity were noted in counties with a combined population that was > 50% of the state's total population

Each week during the influenza season the CDC compiled data from each state to generate a map of influenza activity in the United States. The map can be viewed on the CDC Internet website at <www.cdc.gov/ncidod/diseases/flu/weekly.htm>.

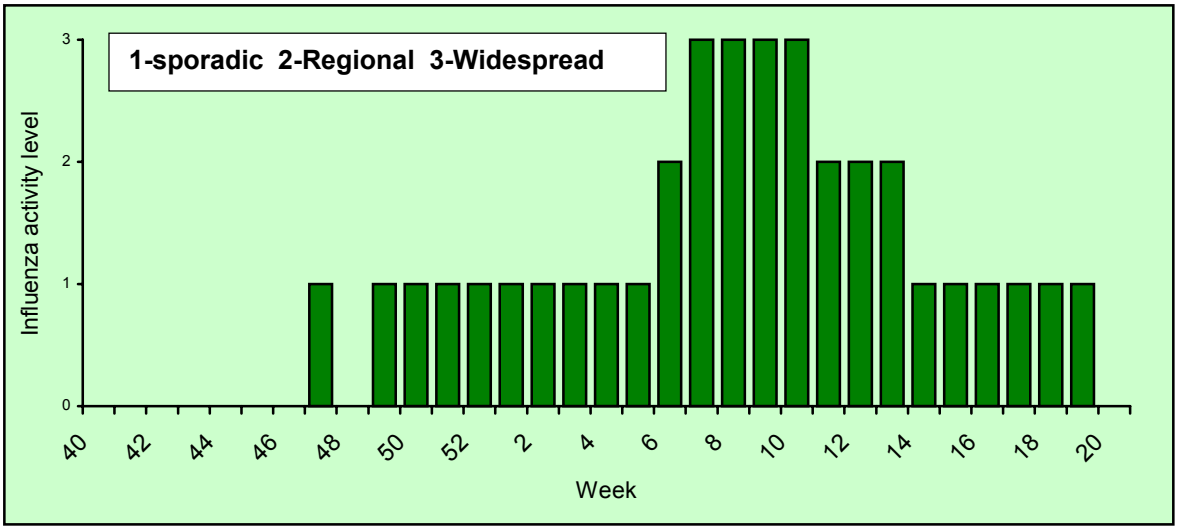
Influenza activity in Wisconsin, 2001-2002

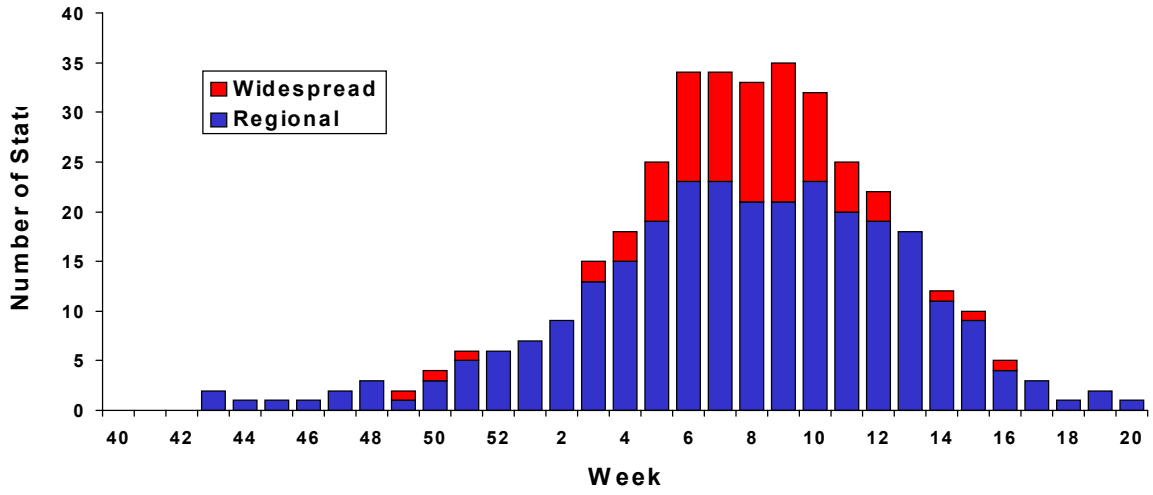
Since 1995, the CDES has received a weekly summary from the WSLH that reflects the number of laboratory confirmed influenza cases in Wisconsin. The summary data was compiled from voluntary weekly reports submitted to the WSLH by participating laboratories of the Wisconsin Laboratory Information Network (LIN). Activity levels in Wisconsin are transmitted on a weekly basis to the CDC via NETSS.

Sporadic influenza activity in Wisconsin was first identified during the week ending November 23, 2002 (week 02-47), and regional activity was identified during the week ending February 8, 2003 (week 03-06). Widespread activity was first identified in Wisconsin during the 2002-2003 influenza season during the week ending February 15, 2003 (week 03-07). Peak activity was noted during the week ending March 1, 2003 (week 02-09). Figure 7 illustrates the influenza activity in Wisconsin during the 2002-2003 season.

Nationwide, the influenza activity peaked in late February when 33 of 50 states reported regional or widespread influenza activity. Figure 8 illustrates the national influenza activity as noted by state and territorial epidemiologists during the 2002-2003 season.

Figure 7. Influenza activity in Wisconsin during the 2002-2003 influenza season, October 5, 2002-May 17, 2003.





III. PNEUMONIA AND INFLUENZA (P&I) MORTALITY

Overview

Each week, the vital statistics offices in Milwaukee and 121 other cities in the United States (122 total) report to the CDC the total number of death certificates filed and the number of those for which pneumonia was identified as the underlying cause of death or for which influenza was mentioned in any position.

P&I Mortality During the 2002-2003 Influenza Season

The P&I mortality epidemic threshold is a national percentage determined by the CDC, based on data compiled during the previous five year period. These percentages are used for comparison with national P&I mortality data, but may not be an accurate comparison with regional or local P&I mortality data.

Nationally, the percentage of deaths in the United States associated with P&I did not exceed the epidemic threshold during the 2002-2003 season. Historically, a season with influenza A (H1) virus as the predominant influenza virus, which was the case in 2002-2003, is associated with milder virulence and a lower incidence of P&I mortality.

P&I mortality in the East-North Central region of the United States exceeded the epidemic threshold for three consecutive weeks, beginning the week ending April 12, 2003 (week 03-15) and continuing through the week ending April 26 (week 03-18). It must be noted that the epidemic threshold was calculated for national P&I surveillance, and the accuracy of these epidemic levels in comparison to regional P&I is unknown. Figure 9 illustrates the pneumonia and influenza mortality in the United States and the East North Central region of the United States during the 2002-2003 influenza season.

Figure 9. Pneumonia and influenza mortality in the United States and the East North-Central region of

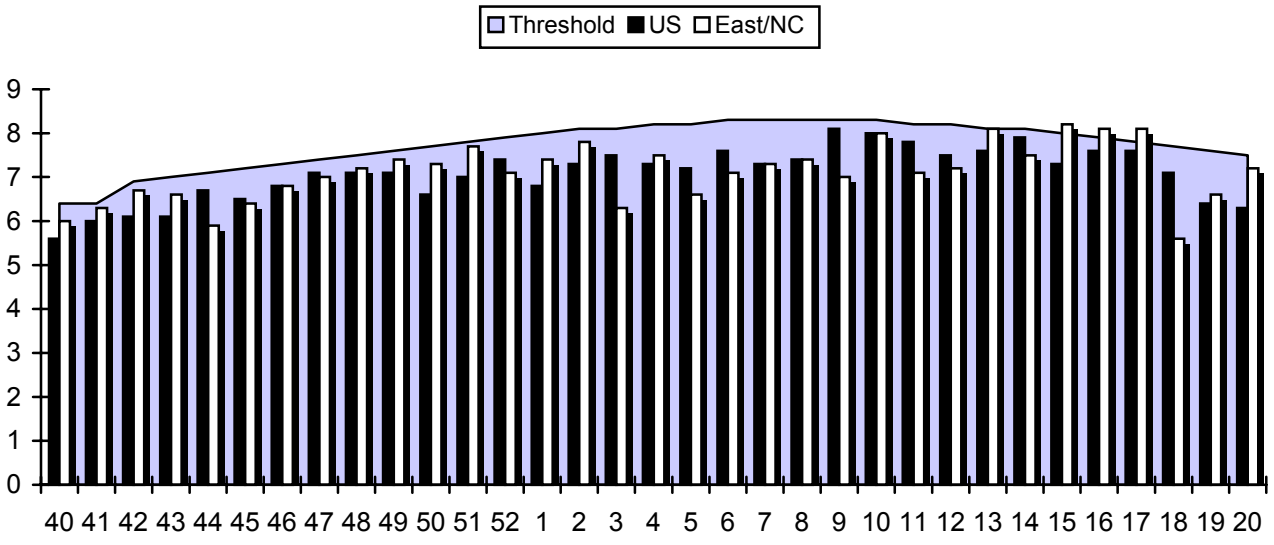


Figure 10. Percentage of tests positive for influenza, East North-central Region of the United States, reported from the WHO collaborating laboratories, October 5, 2002- May 17, 2003.

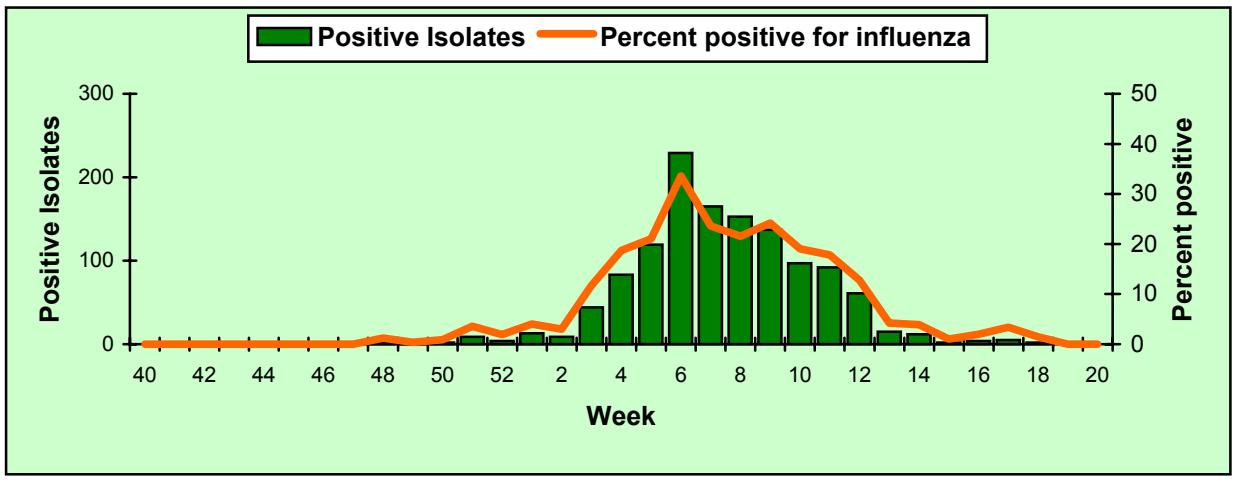


Figure 11. Percentage of tests positive for influenza, United States, reported from the WHO collaborating laboratories, October 5, 2002- May 17, 2003.

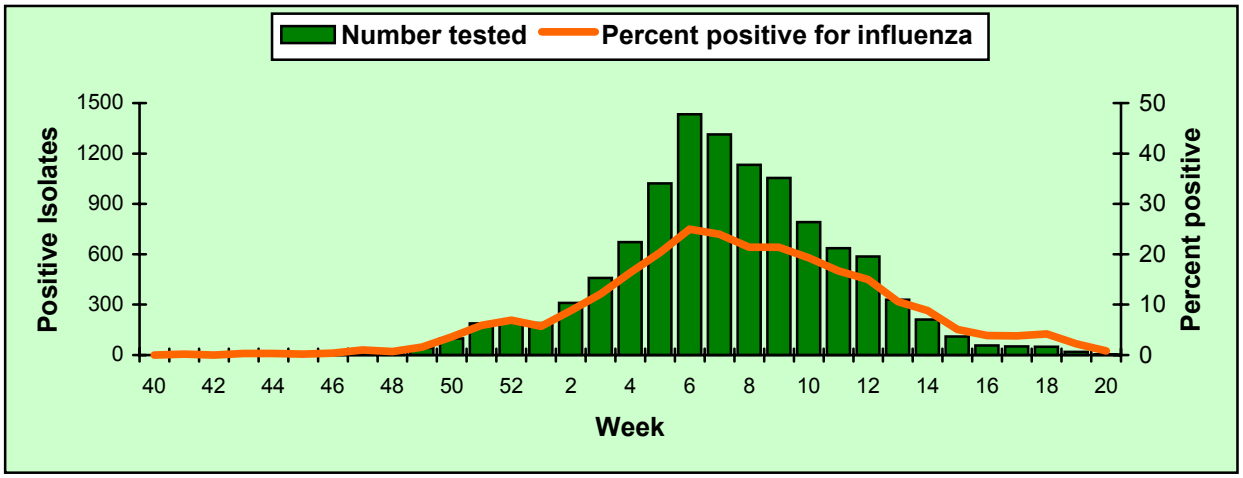


Figure 12. Percentage of tests positive for influenza in Wisconsin, reported from the LIN, October 5, 2002- May 17, 2003.

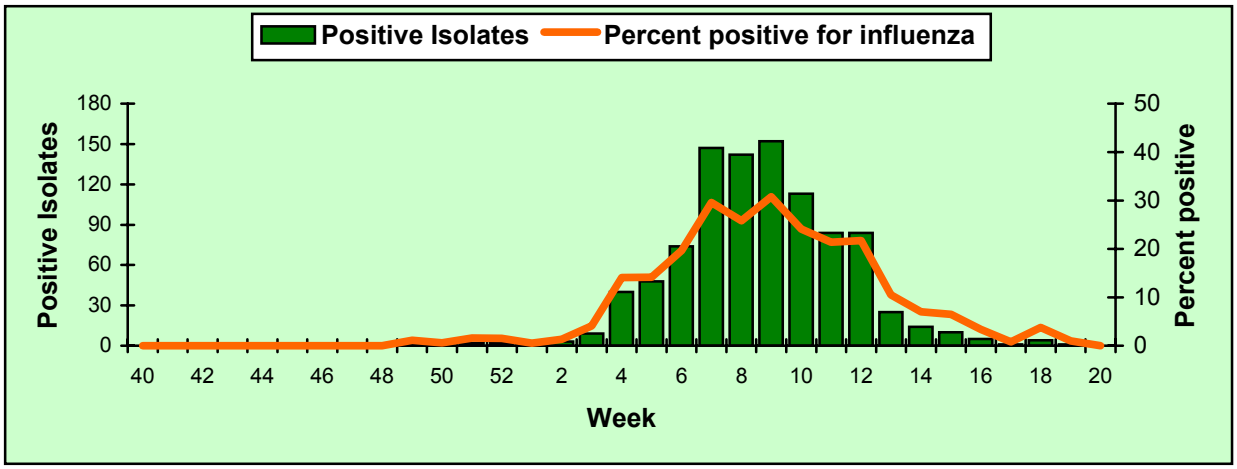


Table 2. Total number of tests and the percentage of tests that were positive for influenza as reported by the Wisconsin Laboratory Information Network (LIN) and WHO collaborating laboratories, October 5, 2002- May 17, 2003.

	Wisconsin LIN	WHO collaborating laboratories
Total number of tests	7,278	97,649
Number positive for influenza	935	10,948
% positive	12.8%	11.2%

Table 3. Subtyping of Influenza A isolates from the Wisconsin Laboratory Information Network (LIN) and WHO collaborating laboratories, October 5, 2002- May 17, 2003.

	Wisconsin LIN		WHO collaborating laboratories	
Total positive isolates	935		10,948	
Influenza A	611	65%	6,180	56%
Subtyped	313		3,170	
Number and % H3	93	30%	951	30%
Characterized	20		143	
A/Panama		80%		85%
A/ Korea		20%		15%
Number and % H1	220	70%	4,326	70%
Characterized	13		287	
A/New Caledonia		100%		100%
Influenza B	324 (35%)		4,768 (44%)	
Characterized	2		269	
B/Victoria		100%		> 99%
B/Yamagata		0%		< 1%

- CDC has antigenically characterized 699 influenza viruses submitted by U.S. laboratories and collected between September 29, 2002 and May 17, 2003.
- Completed characterization was done on 35 influenza isolates from Wisconsin sent to CDC
- A/Korea, showed (somewhat) reduced titers to ferret antisera produced against A/Panama which is antigenically similar to the vaccine strain A/Moscow.
- B/Victoria lineage and were similar antigenically to the vaccine strain B/Hong Kong. The one B virus belonged to the B/Yamagata lineage and was similar to B/Sichuan virus.

Enhanced Laboratory Surveillance

In February 2003, two human cases of laboratory-confirmed avian influenza were identified in Hong Kong. This was the first time the influenza virus, Type A (H5N1) previously identified only in birds, had been identified in humans. Because humans were not previously affected, there was no natural immunity to this virus and the spread of this virus from person-to-person was possible.

In response to the identification of the novel virus among humans, and to meet the expectations of the Wisconsin Influenza Pandemic Surveillance Plan, the WDPH and the WSLH initiated Enhanced Laboratory Surveillance for the novel influenza virus. Enhanced Laboratory Surveillance included the collection of (throat or nasopharyngeal) from any patient who presents with symptoms characteristic of influenza (fever, cough, sore throat, and myalgia) that meet any of the following criteria:

1. Returned from anywhere in Asia within the previous two weeks.

2. Had received influenza vaccine since October 2002.

3. Have unusually severe symptoms characteristic of influenza regardless of their travel history.

Twenty-two specimens were collected on patients that met one of the criteria. Of the 23 specimens, 13 were positive for respiratory virus. Table 24describes the number of specimens collected, the reason for collection and the results of testing.

Table 4. The number of specimens collected the reason for collection and the results of testing during Enhanced Laboratory Surveillance in Wisconsin, 2003.

Number of Specimens	Reason		Influenza A	Influenza B	RSV	Negative
22	Travel	3	9	3	1	9
	Previously immunized	10	2 (H3) 7 (H1)			
	Unusually Severe Symptoms	4				
	Unknown	5				

.

One of the A/(H3) isolates was characterized at the CDC as an A/Korea, the strain that showed (somewhat) reduced titers to ferret antisera produced against A/Panama a strain antigenically similar to the vaccine strain A/Moscow. Enhanced Laboratory Surveillance did not identify any unusual strain of influenza among the ill cases.

V. SUMMARY OF INFLUENZA SURVEILLANCE IN WISCONSIN, 2002-2003

There is no formula to determine the severity of an influenza season. An accurate assessment of the season should include statewide P&I mortality data in addition to incidence data. Since P&I mortality is assessed on a national level and is not calculated on a state level, it is impossible to determine the severity of the season in Wisconsin with 100% accuracy.

The length of the season and lack of widespread activity during the 2002-2003 influenza season in Wisconsin was consistent with that noted nationwide. In contrast to Wisconsin historical data, influenza activity lasted two weeks longer and peaked four weeks later than average. This comparison was determined by the CDES based on data compiled from morbidity surveillance as assessed by state and territorial epidemiologists. A comparison of historical data with surveillance of ILI by sentinel physicians may not be reliable, until a historical trend of ILI can be established. Table 5 summarizes influenza surveillance in Wisconsin during the 2002-2003 season, based on weekly reports from State and Territorial Epidemiologists to the CDC.

Table 5. A summary of influenza activity in Wisconsin during the 2002-2003 influenza season, based on state and territorial epidemiologist reports to the CDC.

	02-03 Influenza Activity Levels	**Historical average
Length of Season		
Week first case noted (week ending)	48 (November 30, 2002)	46
Week last case noted (week ending)	18 (May 3, 2002)	18
Number of weeks with influenza cases	23	23
Duration of widespread activity		
First week of widespread activity noted (week ending)	7 (February 15, 2003)	3
Last week of widespread activity noted (week ending)	10 (March 8, 2003)	7
Number of weeks of widespread activity	4	4
Peak		
Week influenza activity peaked (week ending)	9 (March 1, 2003)	5

** Historical averages based on 10 years of data from derived from State and Territorial Epidemiologists reports to the CDC from1990-2001, (excluding data from 1995).

VI. SURVEILLANCE FOR OTHER RESPIRATORY VIRUSES IN WISCONSIN, 2002-2003

Surveillance Methods

In the United States, respiratory virus activity is monitored by the CDC through the NREVSS, a voluntary, laboratory-based system that consists of approximately 50 laboratories nationwide. NREVSS laboratories report the total number of tests and the number of positive tests for each respiratory virus on a weekly basis.

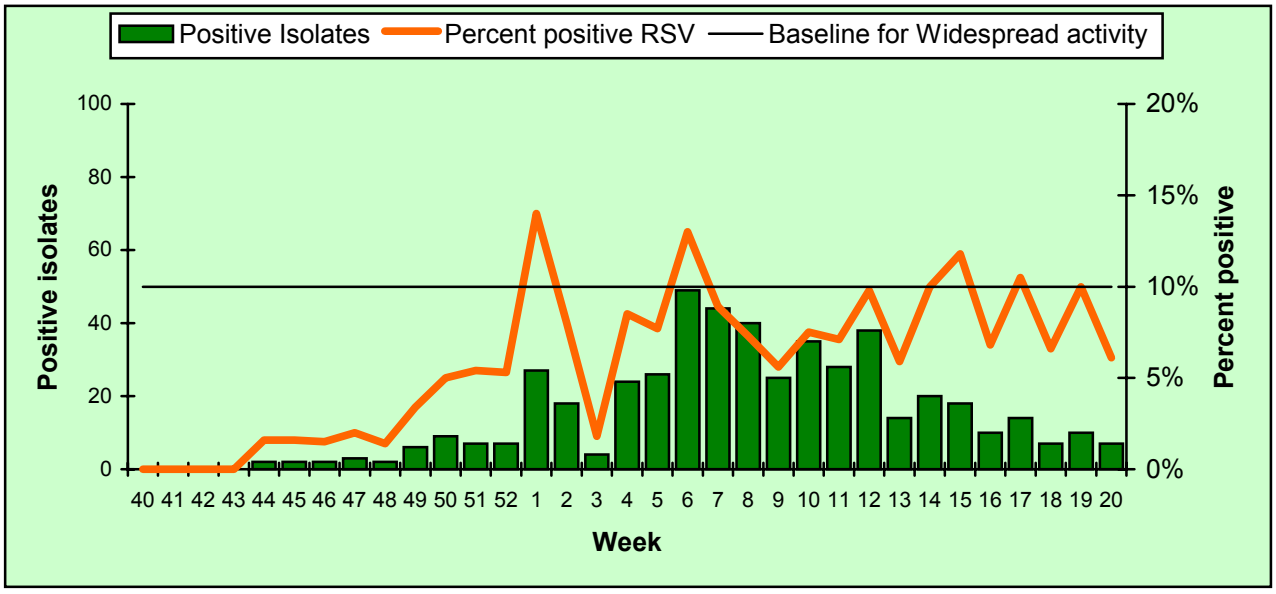
Respiratory virus infections are not reportable in Wisconsin. The CDES performs surveillance by monitoring the percentage of respiratory specimens positive for the each virus, as voluntarily reported on a weekly basis by participants of the Wisconsin LIN.

Respiratory Syncytial Virus (RSV)

RSV is a major cause of respiratory illness among individuals in all age groups. Among infants and young children, it is the most common cause of bronchitis, croup, ear infections and pneumonia. RSV is now becoming more recognized as a serious lower respiratory tract infection among the elderly and persons who are immune suppressed.

The NREVSS considers RSV activity to be widespread when at least half of the participating laboratories detect any RSV for at least two consecutive weeks and greater than 10% of all specimens tested by antigen detection for RSV are positive. RSV peak activity is in winter, usually 4-6 weeks prior to or after the peak of influenza. Based on data received from the Wisconsin LIN, and using similar criteria to that of the NREVSS, widespread activity was seen during weeks 03-01, 03-6, 03-15 and 03-17 during the 2002-2003 respiratory virus season. It appears that RSV activity in Wisconsin peaked during the week ending February 8 (week 03-06) when 13% of the respiratory specimens were positive and the highest number of isolates were identified. Figure 13 illustrates the percentage of respiratory specimens positive for RSV in Wisconsin during the 2002-2003 respiratory virus season.

Figure 13. The number of positive isolates and the percentage of respiratory virus tests positive for RSV in Wisconsin, October 5, 2002- May 17, 2003.



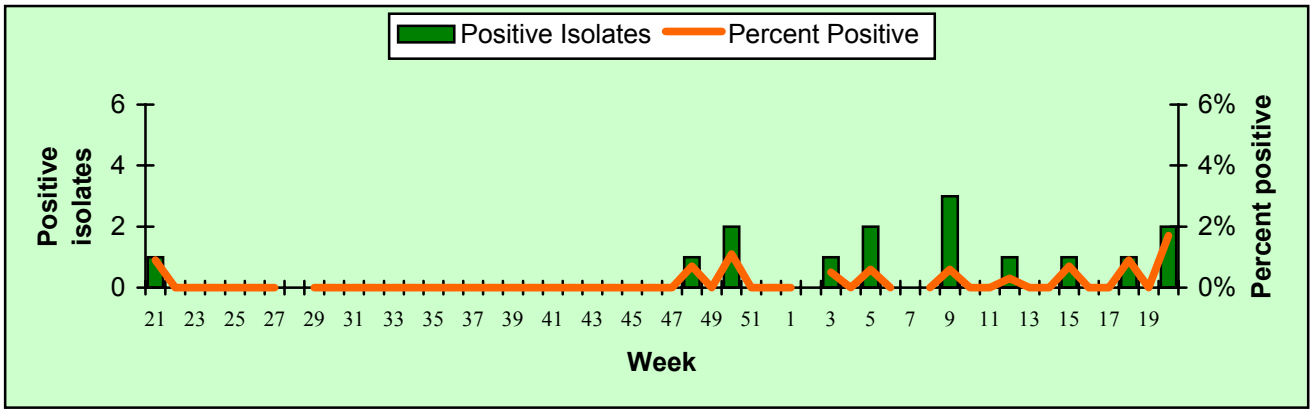
Parainfluenza (PI)

Parainfluenza, like RSV, is a primary cause of serious respiratory infections in infants and young children, and is becoming a serious disease among the elderly and persons who are immune suppressed. PI can also cause serious infections among the elderly and persons with altered immune systems. There are four types of PI (1-4), each having unique seasonality.

PI-1

In Wisconsin, increased infections with PI-1 have been noted to peak on a biennial basis from mid to late autumn, usually during the odd number years. Increased activity from PI-1 is expected in 2003. The percentage of respiratory tests positive for PI-1 during the 2002-2003 respiratory virus season, a non-peak season, did not indicate a discernable peak in activity. Figure 14 illustrates the number of respiratory tests positive for parainfluenza type 1 and the percentage of positive tests during the 2002-2003 respiratory virus season.

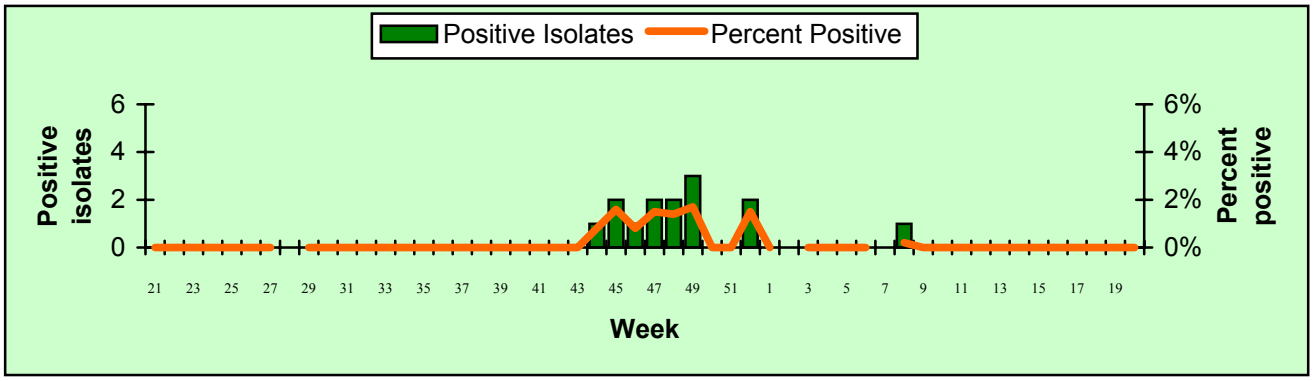
Figure 14. The number of positive isolates and the percentage of respiratory tests positive for parainfluenza 1, Wisconsin, May 25, 2002- May 17, 2003.



PI-2

The incidence of PI-2 is more erratic than that of PI-1. In Wisconsin, PI-2 activity can peak anytime from late spring to late autumn. During the 2001-2002 respiratory virus season, PI-2 activity peaked at 1.7% during late autumn. Annual peak percentage rates for PI-2 in Wisconsin can range from 1-8%. Figure 15 illustrates the number of respiratory tests positive for parainfluenza type 2 and the percentage of positive tests during the 2002-2003 respiratory virus season.

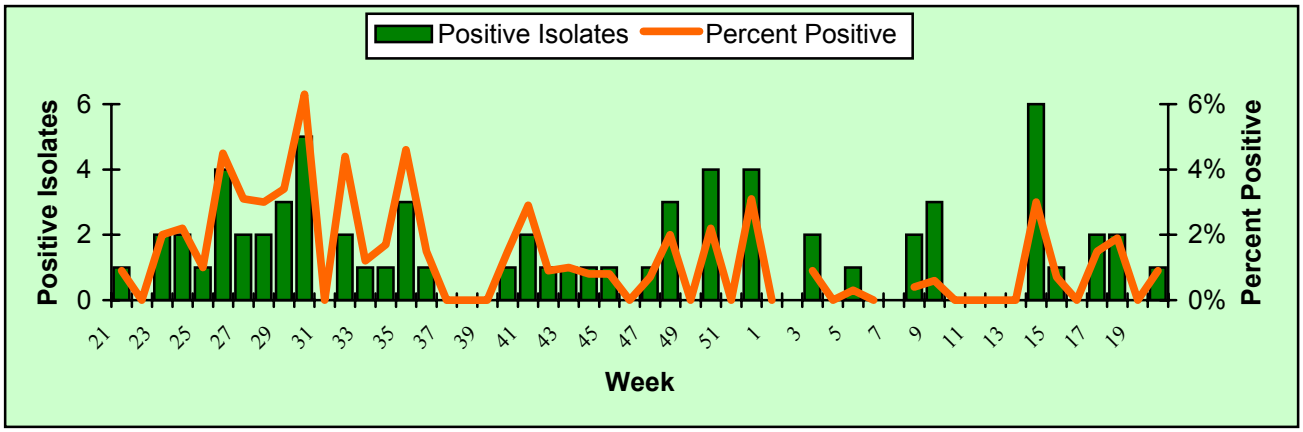
Figure 15. The number of positive isolates and the percentage of respiratory tests positive for parainfluenza 2, Wisconsin, May 25, 2002- May 17, 2003.



PI-3

Although the incidence of PI-3 occurs year round, it usually peaks on an annual basis from late spring to early summer. In Wisconsin, PI-3 activity peaked at 6.3% in early summer of 2002. Annual peak percentage rates for PI-3 in Wisconsin can range from 6-22%. Figure 16 illustrates the number of respiratory tests positive for parainfluenza type 3 and the percentage of positive tests during the 2002-2003 respiratory virus season.

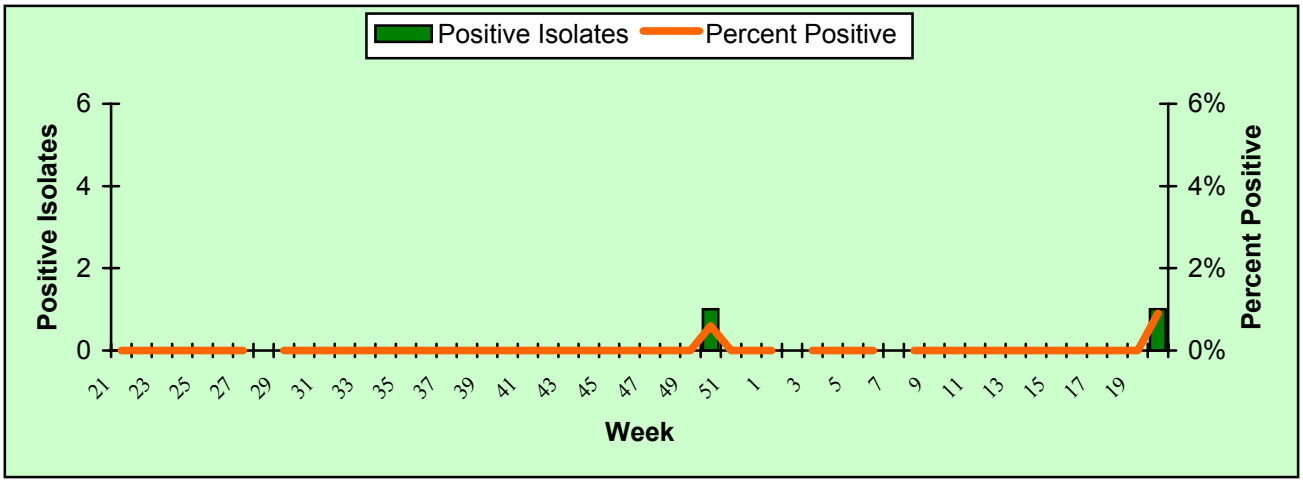
Figure 16. The number of positive isolates and the percentage of respiratory tests positive for parainfluenza 3, Wisconsin, May 25, 2002- May 17, 2003.



PI-4

PI-4 is infrequently isolated and the seasonal characteristics of the virus cannot be determined. PI-4 was sporadically identified during the 2002-2003 respiratory virus season and did not exceed 0.6% in any single week. Annual peak percentage rates for PI-4 in Wisconsin may peak at any time of year and range from 1- 6.5%. Figure 17 illustrates the number of respiratory tests positive for parainfluenza type 4 and the percentage of positive tests during the 2002-2003 respiratory virus season

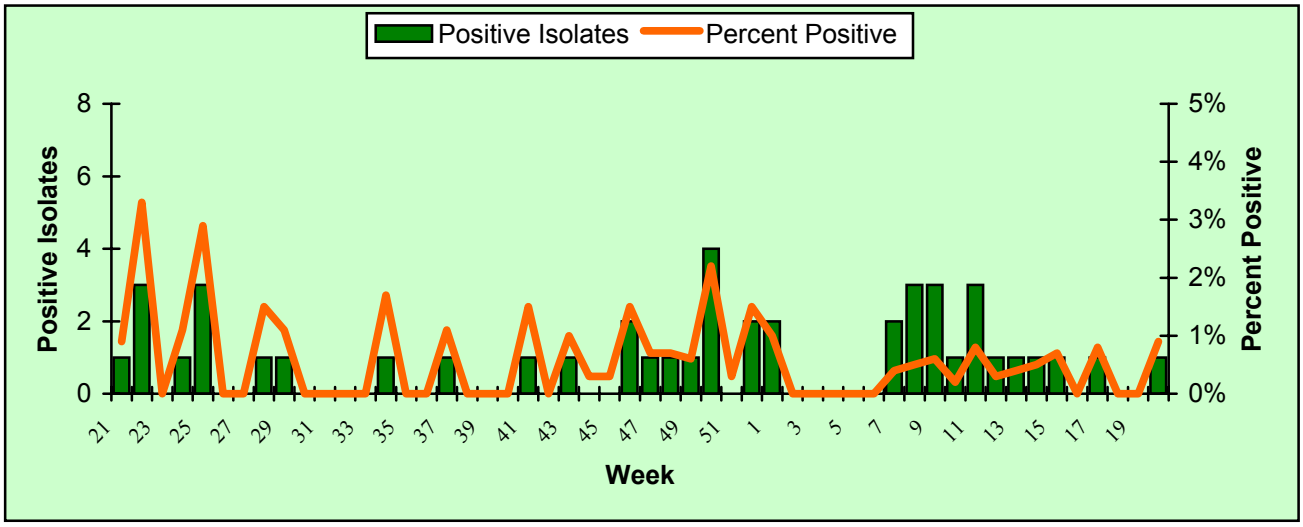
Figure 17. The number of positive isolates and the percentage of respiratory tests positive for parainfluenza 4, Wisconsin, May 25, 2002- May 17, 2003.



Adenovirus

Adenovirus infections are endemic throughout the year. It tends to affect young children and persons with an altered immune system, but may affect persons of any age. Peak activity is not well defined but increased activity can usually be noted from spring to early summer. Increased activity was noted in spring and early summer of 2002 when positive percentages reached 3.3% and an unusual increase was noted in early winter of 2002, when the percentage reached 2.2%. Figure 18 illustrates the percentage of respiratory tests positive for adenovirus during the 2002-2003 respiratory virus season.

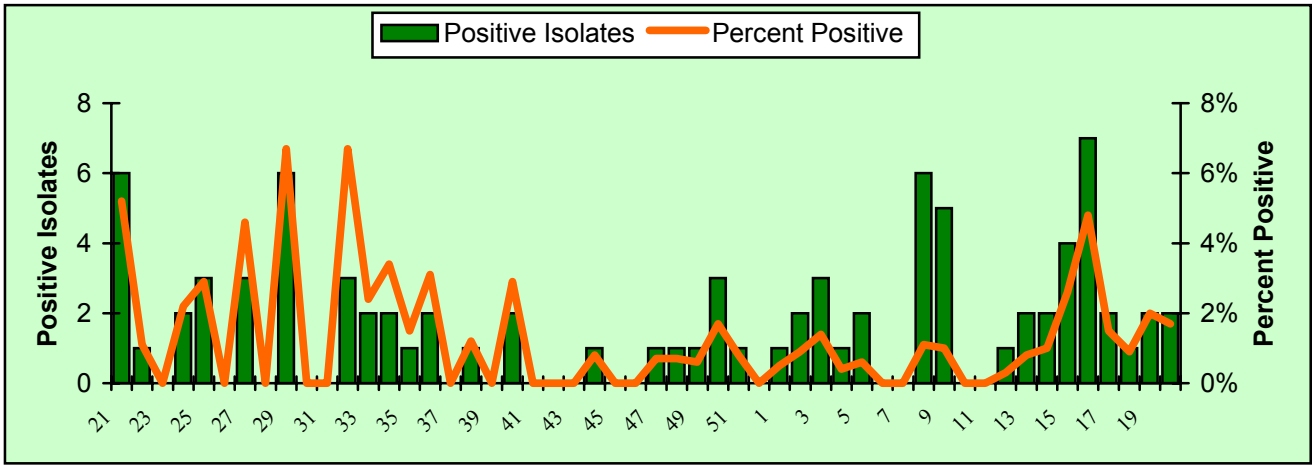
Figure 18. The number of positive isolates and the percentage of respiratory tests positive for adenovirus, Wisconsin, May 25, 2002- May 17, 2003.



Rhinovirus

Rhinovirus is the most common cause of acute respiratory infections. Like adenovirus, rhinovirus is endemic throughout the year. When discernible peaks were identified in Wisconsin, they occur in late spring and earlier summer. Rhinovirus activity was sporadic during the 2002-2003 respiratory virus season. An increase in activity was noted in early spring, when the percentage of positive tests reached 4.8% and in late summer when the percentage of positive tests reached 6.7%. Figure 19 illustrates the percentage of respiratory tests positive for rhinovirus during the 2002-2003 respiratory virus season.

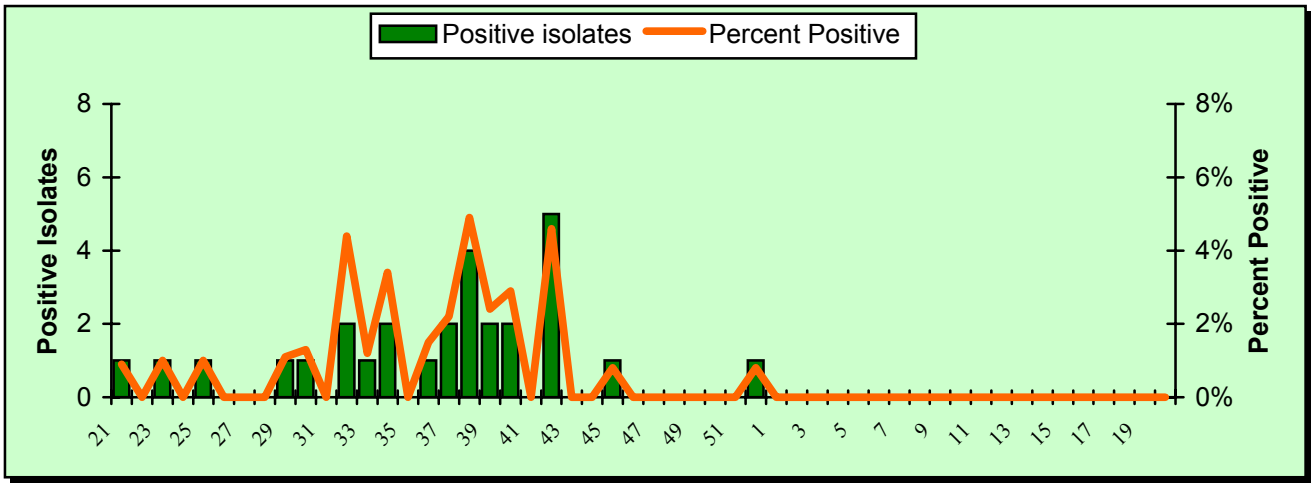
Figure 19. The number of positive isolates and the percentage of respiratory tests positive for rhinovirus, Wisconsin, May 25, 2002- May 17, 2003.



Enterovirus

Enteroviruses cause a wide spectrum of illness including respiratory, gastrointestinal and skin disease. Peak activity is well defined in the United States and in Wisconsin during late summer and fall. In Wisconsin, enterovirus activity reached peak activity in late September and October of 2002. Figure 20 illustrates the percentage of respiratory tests positive for enterovirus during the 2002-2003 respiratory virus season

Figure 20. The number of positive isolates and the percentage of respiratory tests positive for enterovirus, Wisconsin, May 25, 2002- May 17, 2003.



Severe Acute Respiratory Syndrome (SARS)

In March 2003, the CDC issued a health alert in response to reports of increasing numbers of cases of an atypical pneumonia identified as Severe Acute Respiratory Syndrome (SARS). The cause of SARS was later identified as a novel coronavirus, SARS Co-V.

Upon learning of several reported cases in Canada among travelers recently returned from Southeast Asia, the CDC began surveillance for SARS in the United States including Wisconsin. After consultation with the DPH, persons who met the case definition of a suspect, probable or special interest case, were placed on isolation, either at home or in the hospital depending on the severity of their illness. Isolation was continued for 10 days after their fever ended and respiratory signs and symptoms improved. Table 5 describes the case definition for suspect, probable or special interest cases.

Table 5. The SARS case definition for suspect, probable and special interest cases.

Suspect Case

- Onset of illness after February 1, 2003
- Temperature of >100.4º F (>38º C), and
- One or more clinical findings of respiratory illness (e.g., cough, shortness of breath, difficulty breathing, or hypoxia). AND
- Have traveled (including transit in an airport) within 10 days of onset of symptoms to an area with current or recently documented or suspected community transmission of SARS, OR
- Had close contact within 10 days of onset of symptoms with a person known or suspected to have SARS infection

Probable Case

- A suspect case AND:
- Radiographic evidence of pneumonia, or Respiratory distress syndrome, or autopsy findings consistent with pneumonia or respiratory distress syndrome.

Special Interest (Lab-only)

- A suspect or probable case except that one criterion was not met. Examples may include:
  - A suspect case whose fever was less than 100.4° F
  - A suspect case, but who returned from an endemic area 11-12 days before illness onset
  - A suspect case without respiratory signs and symptoms

Between March and June of 2003, the BCD consulted with clinicians throughout Wisconsin regarding 110 (estimated) potential cases of SARS. Of those evaluated for SARS, 25 had illness that met one of the categorical case definitions. Table 6 identifies the number of ill patients in Wisconsin that met the case definition in each category

Table 6. The number of patients identified as suspect, probable or special interest cases of SARS in Wisconsin, from March 24 to June 14, 2003.

Category	Number of Cases
Suspect Cases	11
Probable Cases	2
Special Interest Cases	12

Clinical specimens collected from SARS cases included, oropharyngeal (OP) or nasopharyngeal (NP) swabs that were tested by PCR for SARS Co-V, and acute and convalescent sera for antibody testing specific to SARS Co-V.

As of 8/1/03, 10 of the 11 suspect cases and one of the two probable cases were excluded from the list based on the either negative antibody results to SARS Co-V on convalescent sera, or were excluded because they were contacts of suspect/probable case that had negative antibody results on convalescent sera.

The Division of Public Health will be working on a SARS plan throughout the summer. In addition to the basic parts of the plan, clarification of the some of problems identified during the recent surveillance for SARS-CoV, will be addressed including:

1. Criteria for testing specimens at the Wisconsin State Laboratory of Hygiene
2. Surveillance for SARS-CoV infection among travelers to endemic areas (current surveillance)
3. Enhanced surveillance to identify local transmission of SARS-CoV in the United States or in Wisconsin.
4. Clarification of isolation and quarantine recommendations including:
   - Workman's compensation issues for isolated/quarantined individuals
   - Personal protection and infection control recommendations for isolated individuals
5. Payment for office visits, and payment for the collection and shipping of clinical specimens to the WSLH
6. Accurate collection of data